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OF THE CHILDRENS HOSPITAL

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PSYCHIATRY DEPARTMENT

PREFACE

Reginald S. Lourie, M.D.

The articles appearing in this issue of Clinical Proceedings of the Children's Hospital are a reflection of some of the areas in which as pychiatric department functions in a pediatric setting. In general, such a department, is concerned with the problems of much younger children than the conventional child guidance clinic is called on to serve, and thus offers teaching material geared to the levels with which pediatricians deal most frequently.

The Department of Psychiatry of Children's Hospital was established in 1948 as a facility to provide service to the patients of the hospital and to indoctrinate the residents of the hospital in the recognition, treatment, and prevention of emotional disturbances in both sick and well children. Its staff consists of a psychiatrist trained in pediatrics, a clinical psychologist, and a psychiatric social worker. The Assistant Chief Residents spend two months in rotation as members of the Department. The Department operates a psychiatric clinic; gives courses for the medical students, undergraduates and post graduate nurses; holds seminars, weekly ward rounds; conducts a combined consultation and intake service in the O.P.D.; and supervises the indoctrination of residents and medical students to preventive approaches to well babies in the Child Welfare Department.

The Department's procedure in accepting cases for study is for the resident, who is interested in having psychiatric evaluation and treatment for a patient encountered in the O.P.D. to prepare a preliminary study of the child. This involves obtaining from the parents, where possible, the background of the difficulty. Outlines for such studies are available in the dispensary and instruction in interviewing techniques is provided. After the resident has obtained a sufficient background, the case is referred to Medical Social Service for any further information that seems indicated, particularly from community sources such as schools, agencies, clinics, etc., which could be helpful in throwing light on the nature of the difficulty presented. When these studies are completed, the case is then presented at the Intake Conference held once a week. At that time an evaluation is made of the situation and the direction in which it goes is determined by the staff in consultation with the interested physicians and Social Service. If it turns out to be a problem that the pediatrician is expected to handle in his practice, the case goes back to the referring resident with whatever insight has been gained from the consultation. If it appears to be a situation that requires more definitive techniques in arriving at a conclu-

sion as to the child's difficulty and needs, the case is then referred to the psychiatric clinic. There the Resident in Psychiatry works up the case under supervision of the staff of the Department. When all the studies have been completed, including the psychiatric and psychological examinations, a staff conference is held on the case. To this conference the referring physicians are particularly invited, in addition to other interested parties. The case can at that point go back to the referring physician if he would be expected to handle such situations in his own later practice. If psychiatric help is found to be necessary, the case either remains in the Department or is referred to an appropriate agency or clinic in the community.

Cases are seen on the wards in consultation in addition to those children seen in the weekly ward rounds. On the in-patient service an attempt is made to handle whatever emotional problems are complicating the adjustment of the child to its illness. Rarely cases are admitted to the hospital for the handling of acute emotional upsets such as acute anxiety states. The hospital is not equipped to provide in patient service for the more disturbed children.

The seminars include formal outlines of personality growth and development, particularly in terms of physical growth and development. In addition special problems and cases of interest to the staff are discussed. Any special research done by the resident staff is reported at these weekly meetings Guests are invited from many disciplines that deal with childhood problems including school health, speech, social work, educational and anthropological fields. An attempt is made to indoctrinate the residents in the community aspects of handling children's health problems.

Special provision is provided for one full time resident each year to be trained as a pediatric psychiatrist. This involves obtaining a background in adult psychiatry following an orientation in pediatrics before coming to this department.

The daily staff conferences and most of the other activities of the Department, including interviews with children and parents, are arranged so that residents and students may participate.

PREVENTION OF BEHAVIOR PROBLEMS THROUGH THE WELL BABY CLINIC*

Charles R. Webb, M.D.

During the past two decades, increasing attention has been focused on the problem of children's behavior disorders. The relationships between

* Study submitted to the White House Conference 1950.

them and the manifestations of later neuroses in the adult population have been dramatically illustrated by Freud, Meyer, Adler, and others. The solution to the problem of preventing these disorders and thereby, to some extent, forestalling the sequellae, has been approached from many angles and by varied disciplines.

Great strides have been made in the understanding of various areas of child training and development. This, in turn, has cast light on such subjects as the effects of emotional deprivation in the young, the effect of home environment in influencing personality development, and the psychologic implications of breast feeding. The team-work relationship of the social worker, child psychologist, public health nurse, and the child psychiatrist have been increasingly effective in handling these and other problems. Too often, the physician has been complacent or unaware of what his part could be in this framework. The tendency has been to emphasize the physical. The psychologic areas have been frequently ignored or left to other interests. The pediatrician has failed to accomplish his goal: the treatment of the whole child, when he neglects to properly consider the mental and emotional aspects as well as the physical. The necessity of proper attitude towards the parents and the utilization of proper psychological techniques are also advocated.

It is inevitable that the physician's role in prophylaxis of behavior disorders would cause thoughtful leaders in mental hygiene to consider efficient methods of utilizing the pediatrician's skills. Dr. Lemkau discusses mental hygiene in public health. He postulates that if he had the problem of primary psychologic orientation rather than re-orientation, the position would be one of building a personality rather than the more difficult one of rebuilding it. This concept is applicable directly to the field of mental hygiene in pediatrics through the medium of reaching large groups of children. Therefore, we will be able to guide the evolution of their personalities into healthier channels. It is suggested that this can be done by employment of the "Well-baby Clinic" and the "Mental Hygiene Clinic."

In 1939 Wishak explored the utilization of Well-baby clinics as a source of psychologic prevention and education. She found that 80 per cent of those attending these clinics were bothered by questions of day-to-day upbringing of their infants. The author felt that the Well-baby clinic was the place where these people should obtain help and guidance. Such a clinic should offer a combination of trained and interested doctors and nurses. Since these initial reports, city and state health departments have demonstrated increasing interest in such child handling. Barratt and Valentine in 1944 submitted a report on the New York City Child Health Stations. Their work indicated that child mental hygiene stations were necessary and could be effective. They state that more attention should be placed on re-orientating the pediatricians and the nurses in emotional

aspects of maturation. They made recommendations concerning a more closely knit and psychologically oriented Well-baby clinic.

In New Jersey, the promotion of mental health through Well-baby clinics has been stressed. Dr. Levy in the State Department of Health has attempted to educate the physicians and public health nurses in the vitally important field of mental growth. He recommends the employment of "anticipatory guidance of the parent." Through parallel physical and mental growth evaluation, his department hopes to prevent, to a large measure, behavior problems and other sources of parent-child conflict.

Dr. Frankl feels that psychologic care must extend past the small, select group encountered in the mental hygiene clinic and must reach a large number of persons who visit the Well-baby clinics. Dr. Milton Senn discusses some of the problems that are encountered in Well-baby clinics and offers recommendations on their handling.

To evaluate the efficacy of method of psychologic care in Well-baby clinics and to determine the necessary, further courses, a ten year survey was undertaken in the Child Welfare Society Clinic at the Children's Hospital, Washington, D. C.

1,339 cases were chosen on the basis of their completeness but without regard to the presence of psychic aberrations. This clinic depended heavily upon psychologically oriented nurses and physicians. A full-time psychologist, and later a part-time consulting psychiatrist from the Mental Hygiene Clinic advised the clinic personnel and through referrals handled the difficult cases. The outline they followed was the "parallel type" which included equal attention to the question of psychologic and physical growth and development.

The clinic nurses and physicians attempted to follow the anticipatory guidance method. Their aim was to allay the fears of the parents by giving them an insight into the "normal" development patterns and to aid them in their relations with their children. The preliminary interview was conducted by the public health nurse. At this time a general evaluation of the child was made and problems concerning growth and development were elicited and discussed as completely as possible. The physician then completed a physical examination and attempted to further clarify any still-existing points of anxiety. Before the patient left the clinic, a final interview was completed. At this time, problems were reviewed and subjects were reiterated. The nurse made every effort to insure understanding on the part of the parent of the problems that existed. She attempted to allay any fears which might remain. A new appointment was then given to follow up subjects and to measure the effectiveness of the program. If the appointment was not kept, a follow-up survey was made by mail, phone calls, or direct home visits. The home calls were also made in those cases which needed particular help or supervision.

Despite the intensive efforts employed to use good techniques and to establish rapport, there were numerous problems which still became manifest. These ranged from the very mild problems based on maternal misunderstanding or anxiety to the extremely severe ones of major behavior disorders. Of the 1,339 cases reviewed, 347 patients presented 524 instances of problems in behavior which developed even in the presence of this preventive approach. Of these, 121 exhibited multiple problems. Further breakdown of the statistics revealed that 313 patients or 60 per cent of the problems were severe. Fifty-nine problems representing 11 per cent, were refractive to treatment and were referred to the child psychologist and psychiatrist in the hospital guidance clinic for handling with more definitive

TABLE 1

Analysis of Statistics—Ten Year Survey

YEAR	CHARTS REVIEWED	PATIENTS WITH PROBLEMS	TOTAL PROBLEMS	SEVERE PROBLEMS	REFERRED TO MENTAL HYGIENE CLINIC
1939	343	62	66	24	4
1940	296	64	97	68	13
1941	100	31	61	31	10
1942	100	38	61	33	8
1943	100	40	69	41	9
1944	100	23	37	22	6
1945	100	26	37	25	4
1946	100	22	31	24	1
1947	100	26	40	28	1
1948	100	15	25	21	3
Total.....	100%*	26.04%†	100%‡	59.73%‡	11.25%‡

* Charts.
† Patients.
‡ Problems.

techniques than a pediatrician or the public health nurse would be expected to develop (Table 1).

Through the efforts of the clinic personnel, 88 problems (16.4 per cent) were completely and in some instances dramatically relieved. In 340 problems representing 64.8 per cent there were varying degrees of improvement with resultant diminution of familial anxiety and parent-child tension. Thirty-six problems (6.8 per cent) were not improved while under the supervision of the clinic. For purposes of statistical interest two other groups had to be considered. Included in the failures are the 47 (8.9 per cent) that did not return. This disappointing group was followed by home visits and was found to be either uncooperative or to have left the zone covered by

TABLE 2

Response to Psychologic Therapy

		%
Recovered	88	16.84
Improved	340	64.96
No Improvement	36	6.85
Failed to Return	47	8.95
No Follow-up	13	2.40
Total Problems	524	100

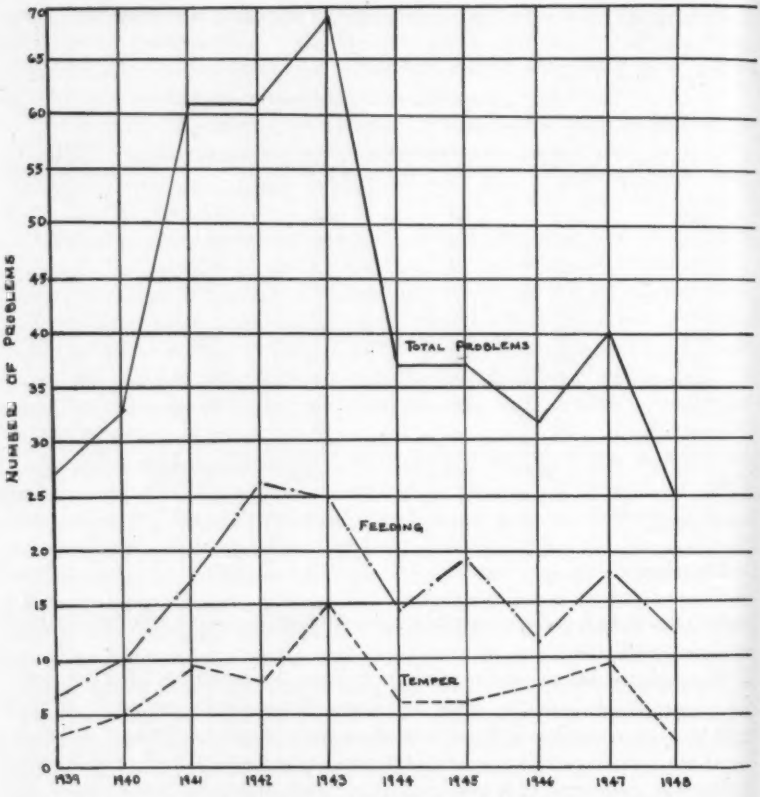

CHART No. 1–Incidence of problems.

this clinic. Further inconclusive results were obtained in 13 instances (2.4 per cent) who were not followed. Whether this was due to the spontaneous recovery of the child could not be determined (Table 2).

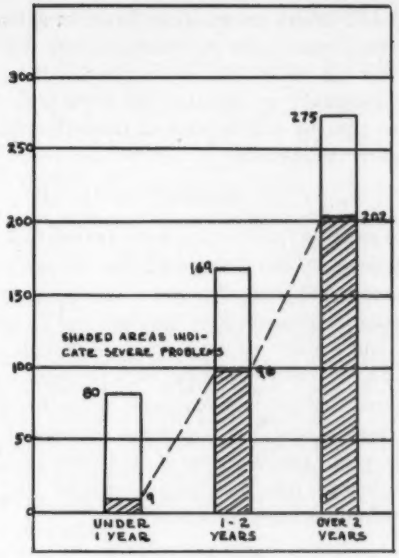

CHART No. 2–Age distribution of problems.

TABLE 3

Incidence of Behavior Problems According to Age

PROBLEMS	UNDER 1 YEAR		1-2 YEARS		OVER 2 YEARS		TOTALS	
	Totals	Severe	Totals	Severe	Totals	Severe	Totals	Severe
Feeding	45	12	60	34	87	70	192	161
Temper	4	1	30	18	54	43	88	62
Thumb Sucking	5	1	25	13	35	29	65	43
Body Manipulations	3	1	14	3	28	6	45	13
Night Restlessness	6	1	11	7	14	12	31	20
Enuresis	1	0	8	4	20	16	29	20
Over Anxious Parents	10	2	8	6	2	1	20	9
Sibling Jealousy	1	1	4	3	11	7	16	11
Speech Difficulties	0	0	0	0	11	11	11	11
Difficult Toilet Training	0	0	6	5	4	3	10	8
Masturbation	1	1	3	3	6	2	10	7
Constipation	4	1	0	0	3	2	7	2
Totals	80	9	169	96	275	202	524	313

Increased psychologic orientation of the pediatrician has allowed him to take a larger share of the handling of these problems in the Well-baby clinic. Through his efforts he will be able to assume the responsibilities now

placed upon the public health nurse. The physician should be equipped to give the same excellent care to the psychologic areas that characterizes his physical therapy for the child. The child psychiatrist should be at last unencumbered by imagined or slightly true deviations from normal behavior problems, so that he will be able to properly treat the psychiatric problems he is required to shoulder.

SUMMARY

1,339 cases were reviewed over a ten year period to evaluate a method of child mental hygiene. It was discovered that 26 per cent of all patients encountered possessed problems of a more serious degree than could be covered by anticipatory guidance. Five hundred and fifty-four (59 per cent) of these problems were considered to be severe. Through the medium of the Well-baby clinic 12.8 per cent recovered; 64.9 per cent improved and only 6.8 per cent demonstrated no improvement. A further group of 11.3 per cent consisted of those who did not return or could not be followed. The ratio of colored to white patients was 2 to 1. Sex incidence was almost equal. The pediatrician's role has been examined and his response to psychologic orientation has been considered.

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RUMINATION IN INFANCY

Bennett Olshaker, M.D.
Edwin B. Vaden, M.D.
Reginald S. Lourie, M.D.

"Rumination" states Shirley,[1] "is a well-known clinical syndrome which consists of regurgitation of food without nausea or retching. It is obviously a pleasureable act, is voluntary, and becomes habitual. Loss of food may result in malnutrition which in some cases become serious." The following three cases are examples of this clinical syndrome. The patients ranged from three to fourteen months of age and were of different socio-economic background. Their symptoms, however, were similar and the treatment to a large extent was the same.

Case No. 1 S. N. 50-782

S. N., a fourteen month old white male, was admitted to the service of Dr. Edward Lewis because of vomiting which was described as projectile. Approximately one-half of each feeding was regurgitated soon after eating. The patient had been delivered at term weighing six pounds, five ounces, and appeared normal at birth. During the first four months of life he vomited most of his feedings and many changes in formula were made. His vomiting was thought to be due to a gastro-intestinal allergy and at four months of age he was placed on a soy-bean formula on which he remained until one year of age. From four to nine months there was no vomiting, and at the end of nine months he weighed nineteen pounds. Treatment with sedatives and antispasmodics had been of temporary benefit. Stools had always been normal in consistency and color, numbering one to three per day. The baby sat alone at seven months, pulled himself up at nine months, began saying words at eleven months, but had never walked.

At twelve months of age he weighed eighteen pounds, and had been hospitalized because of vomiting. The physical examination at that time was essentially negative. Roentgenographic study of the gastro-intestinal tract revealed no abnormality. Skin tests for the common food and inhalant allergens were all negative. He was put on a protein formula which he refused, but he retained water, pureed foods and vegetables. No vomiting was noted during the hospital stay until the third day when the nurse recorded that he regurgitated his pureed vegetable feeding "by putting his thumb in his mouth." He was discharged with the diagnosis of "nervous vomiting" (rumination) and placed on an antispasmodic-sedative medication with frequent small feedings and instructions to try to prevent finger sucking. He improved for several days and then the vomiting recurred.

The family history revealed that both parents were in good health. The father

was a professional athlete who was necessarily away from home a good deal of the time. Before her marriage the mother had taught in a nursery school. There were no siblings.

The admission physical examination revealed a malnourished, irritable child who had poor tissue turgor. The remainder of the examination was essentially negative. Laboratory studies revealed no abnormalities. He was started on a regular diet for his age, and immediately after each feeding (in fact, during all waking hours), the infant succeeded in producing vomiting by a rhythmical, rolling and sucking of the tongue. An attempt to restrain the baby and to prevent the thumb sucking was of no value because he produced vomiting by rolling his tongue in his mouth. He was then seen in consultation by the Children's Hospital psychiatrist who felt that there was a large emotional component in the baby's responses and determined that the onset of the episodes of vomiting were closely correlated with periods of considerable tension in the mother. A review of the social history at that time disclosed that the mother was living with the paternal grandparents in a western state at the time of the baby's birth and for the first four months of his life. The father was away from the family during this period. There was considerable tension in the household and the mother stated that she was under a great strain during this period. When the patient was four months old the father joined his family and for the next five months they had a home of their own. The mother was much more satisfied with this arrangement and it was during this period that the patient's vomiting ceased. When the patient was nine months old the father's career brought them to Washington, D. C. This appears to have been an unhappy move because of the unfamiliar environment, plus the fact that the father was away from home most of the time. Both parents appeared to have been extremely upset and disturbed in their new environment and it was during this period that the vomiting recurred.

It was felt that the vomiting was a compensatory mechanism representing an attempt to relieve the tension with which the baby was surrounded. Certain changes in handling of the patient were suggested with the idea of keeping him occupied and interested for one hour after feeding in order to "provide more fun than the vomiting." On this regime the patient showed a definite improvement with a lessening of the rumination and a steady weight gain. There was a definite change in his personality and in his ability to respond to his environment. He was hospitalized for twenty-five days and a weight increase from sixteen pounds, eight ounces to eighteen pounds, ten ounces was noted. At the time of discharge his rumination had practically ceased, although if left alone in bed he frequently resorted to thumb sucking which resulted in vomiting of small amounts of material.

At the present time the family has been reestablished in the mother's home town. The patient now weighs twenty-five pounds, is happy, developing well, and has had no recurrence of the vomiting.

Case No. 2 J. F.

J. F., a white female, was first admitted at the age of three months because of vomiting. The patient appeared normal at birth and weighed six pounds and ten ounces.

She was breast fed until two weeks of age at which time the mother was advised to change to an evaporated milk formula because the infant was not gaining well. Several days later she was admitted to the hospital where she had been born because of vomiting. During her hospital stay of sixteen days, various formulas were tried, and a proprietary formula was advised as being the best suited. However, after a few

days at home she was again vomiting and a physicain told the mother that the patient was allergic to all milks. Several milk substitutes, cereals, and pureed foods were tried with no success. At no time was the vomiting projectile. The patient was said to have been constipated since birth.

The admission physical examination revealed a poorly developed and malnourished, irritable white female who weighed seven pounds, six ounces. Her skin was dry and there was an eczematoid dermatitis thought to be secondary to scabies. The head was asymmetrical and was tilted to the left. There was a hemangioma one-half centi-

FIG. 1, J. F.: A. During second hospitalization.

meter in diameter in the left frontal area. A bifid uvula was noted, and a small umbilical hernia was present. No other abnormalities were noted.

Roentgenographic examinations of the long bones and gastro-intestinal tract were negative. The blood count was normal and serological tests for syphilis were negative.

During her hospital stay of eighteen days both milk and soy bean preparations were tried together with antispasmodic sedative medication. However, the patient vomited varying amounts after her feedings. Subdural taps revealed no abnormality. She was discharged weighing eight pounds, four ounces with the diagnosis of "possible food allergy."

Three days after discharge it was necessary to readmit the infant because of continued vomiting. Physical examination was essentially the same as on the previous admission.

Various milk and milk-substitute formulas were tried again with no beneficial effect. Eleven days after her admission it was observed that the baby sucked her fingers and was using her tongue to make herself vomit; therefore, restraints were

FIG. 1 B. Eight months later.

ordered but were not effective in preventing vomiting. When these measures had failed she was seen by the psychiatry department. The arm restriants were discontinued and a program designed to provide more satisfaction to the infant was instituted. A special nurse who acted as a substitute mother was assigned to care for the patient. Various methods of entertaining the infant, especially after feedings, were utilized, such as rolling her in a baby carriage, holding her for certain periods and putting her into a larger bed in a busy section of the ward. She responded to this

program immediately by a progressive lessening of the rumination and a gain in weight. On the forty-seventh hospital day she developed a specific diarrhea which responded well to therapy. She was discharged from the hospital to a convalescent home at five and one-half months of age weighing ten pounds, four ounces. Over a period of three weeks from the time that the new therapeutic regime had been initiated a weight gain of two pounds, two ounces had been noted. She was returned to her parents after three weeks and apparently got along well.

The baby is now eleven months old and is doing well. She has not vomited for the past five months.

Review of the family history revealed both parents to be rather immature and unstable. The father had been discharged from the armed service because of "nervousness" and had held a series of positions since that time. Shortly after the marriage, the mother had become pregnant and had been advised to stop working because of her own nervous condition. She appeared to have been disturbed by the early occurrence of the pregnancy and there was apparently some marital discord because she stated that she had anticipated that things might run more smoothly after the baby's arrival. It is of interest to note that the mother had planned that the baby should be a boy. Also, the mother left word here at the hospital that the baby should not be returned to the father.

They had lived in a home with the paternal grandparents up until the time of the baby's prolonged hospitalization when they moved into a room in order to be closer to the baby and to their places of employment. The mother stated that she had let no one else touch the baby or take care of her. The parents had little idea of how to care for the baby and seemed fearful about it. From the mother's description of the day's routine she was apparently doing something to the baby constantly when at home so that the baby never had a chance to just be quiet. For example, each week the mother made several trips to the store one-half mile away and always carried the baby with her.

Case No. 3 J. B.

J. B., a ten month old Negro male, was referred from the Well-Baby Clinic because of failure to gain weight. He had been born prematurely weighing two pounds, nine ounces, and at the age of three months, weighing five pounds, five ounces, had been discharged from the hospital to a foster home. At the time of admission he was receiving an evaporated milk formula at three hour intervals during the day and one feeding at 2:00 A.M. In addition he was eating pureed foods. He made no attempt to sit up or talk, and no teeth had erupted. He was said to be a very irritable infant. Past history was essentially negative. His foster mother was forty years old. The child's real mother was nineteen years old. Nothing was known about the child's father at the time of admission. On admission the patient weighed nine pounds, twelve ounces, and appeared underdeveloped and poorly nourished. Examination of the skin revealed the absence of subcutaneous fat and there were excoriations over the diaper area. The only abnormal findings were a rachitic rosary of the chest and an undescended left testicle. Laboratory studies including serological tests for syphilis were non-contributory.

A diet similar to the one he had been getting at home was given. He vomited varying amounts during the first week in the hospital. After this period an antispasmodic-sedative preparation was given fifteen minutes before feedings. However, he continued to vomit, and it was noted that the patient would suck his fingers and gag himself. Arm restraints were applied to prevent finger-sucking.

During the first nineteen hospital days he vomited varying amounts in spite of the use of antispasmodic-sedative preparations and arm restraints. However, he showed a slight weight gain during this period. On the nineteenth hospital day recommendations made by the psychiatry department were instituted. The arm restraints were removed, the patient was put into a larger bed, and more attention was paid to him especially in the immediate post-feeding period. Rattles, rubber balls, and toys were placed within his reach for his use. The rumination lessened and a corresponding weight gain was noted. Approximately two months after admission he was discharged weighing twelve pounds, twelve ounces.

A review of the social history showed that the nineteen year old, unmarried mother worked as a domestic and earned $22.00 a week, $10.00 of which she sent to her mother for the care of a twenty month old half-brother of the patient. Little was known about the father except that he was a private in the United States Army and showed no interest in the patient. The mother desired that the patient be placed for adoption.

The foster mother to whom he was sent had four children of her own (varying in age from eleven to eighteen years) and another foster child less than one year old. A social agency's review of the foster home showed it to be adequate but there was some question of the adequacy of well baby care that had been given. When the patient was seven months old the agency worker suggested to the foster mother that he was too large for the bassinet in which he slept and that he should be moved to a crib where he could move about more. He was tested at seven months of age (for evaluation prior to adoption placement) and considering his prematurity he rated a superior performance of the Gesell scale. About one month later a private physician did not think him ready for adoption as he had been losing rather than gaining weight during the preceding month, and it was suggested that the reason for this be determined. He was again tested at the age of eleven months and found to have regressed in mental development from the time of his first test.

In this history certain salient facts concerning the child's early experience are brought out. The first three months of this patient's life were spent in the relatively impersonal atmosphere of the hospital nursery after which he was sent to a foster home where the amount of individual care and handling is questionable. He apparently was in a bassinet until the age of eight or nine months making for a confining and restricting environment. Nor were sufficient provisions made for stimulation of an interpersonal nature or for sufficient contact with the environment. Studies of children handled in this way show that the critical point at which a change occurs is approximately five months of age, and that would seem to be borne out in this instance. In other words, adequate physical growth is encountered and apparently normal personality growth up to the point of five months of age, following which there is a determination of both aspects of his development. There is no picture of rumination entering the picture until five months of age. It was then that he was brought to the Well-Baby Clinic for advice about vomiting. Possibly the best way to explain his rumination was on the basis that in the face of inadequate stimulation in his environment, he appeared to look for sources of satisfaction open to him in his very constricted three-foot world. In the hospital ward when he was given more stimulation in terms of interpersonal relationship than he had ever had before and was able to see many more people and to be exposed to almost constant activity his rumination ceased. Since he was at the height of the hand to mouth stage of development, adequate provision was made for objects (rattles, balls, etc.) which he could bring to his mouth so that he could satisfy this stage of development.

DISCUSSION

The three patients presented here apparently developed rumination as a source of satisfaction or a tension-relieving mechanism. In Patient No. 1, the episodes of vomiting can be seen to be related to periods of tension in the home. Patient No. 2 was handled by an immature, nervous mother in such a way as to provide practically no periods of relaxation, and patient No. 3 existed under cramped and unstimulating conditions

All three were ill enough to require hospitalization and similar methods of therapy (restraints, thick feedings, antispasmodics, sedation) failed in each case.

The children in this series presented a symptom which was potentially dangerous to their lives. They were studied quite thoroughly. They had almost literally "an instrument in every orifice" and it was only when the precise, more scientific approaches failed that the less scientific techniques of psychiatry were brought to bear. It is hoped that one of the things that these cases will demonstrate is that an investigation of the emotional climate surrounding the child presents symptoms as self-destructive as these children did.

As in later childhood, eating difficulties in infants have been shown to be fairly closely connected with the child's relationship with his mother. The interest in food generally begins before an interest in people. It is one of the few pleasurable experiences available to an infant and it is through food that he develops ties to the person who feeds him. In the presence of some disturbance in the mother-child relationship or in the absence of such a relationship as we see in patient No. 3 infants may develop anxiety. Even under a year of age either acute or chronic anxiety may be present. The ways of expressing anxiety are not so complex or so varied as in older children, but just as with older individuals, the infant too may turn to its own body and bodily functions for activities that would attempt to relieve the anxiety. Particularly at a time when the infant is preoccupied with discovering new parts of his body, and more particularly in the hand to mouth stage, it is possible for the individual to use the newly discovered functions in excess as substitute forms of satisfaction, especially when other forms of satisfaction are not available to him. (We may also suspect that one other element was operating in these cases. All these children had big mouths and long fingers which might have been a factor too in the origin of the symptom).

Rumination has been described as occurring most frequently in tense, fretful infants but any of them can acquire it. It is actually a form of deliberate vomiting which results after working the mouth and jaws in such a way that food is brought back. Usually, however, it is the result of sucking

of the fingers and consequent gagging. Its cause has been found to be preeminently psychological and it should be approached from that view. In the cases that we have here, we find a range of disturbances ranging from lack of emotional stimulation to lack of relaxation and a response to tension surrounding the child. We find in one of them an insufficient range of activities to keep pace with development and we see development slowing down. When we correct the factors which seem to underlie the disturbance, the rumination appears more or less automatically to be eliminated. The critical point in which particular attention needed to be given to these children was for about an hour after feeding when their attention had to be occupied.

There is a finely drawn line between vomiting and rumination. At times it is difficult to differentiate between them. It is very possible that they start as the same thing. On the whole, vomiting, where there is no organic basis for it, appears to be distressing to the child, and even where it is apparently purposeful the individual is not pleased by the wretching. Rumination, on the other hand, which is regurgitation without nausea or retching is obviously pleasurable. It is voluntary and usually habitual in nature. Even with the chin straps, bonnets, arm restraints, etc., infants who use the bringing back of food as a pleasurable activity can manage merely by throwing their heads back or arching their backs and straining to bring back their food. In general the approach to these children, aside from correcting the factors which originated the difficulty in the mother-child relationship, was to provide sufficient distraction, keeping them active and happy and engaging them in age-adequate stimulation in play. Once the symptom was interrupted long enough, that is a matter of about two weeks, it shows little tendency to return.

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THE PEDIATRICIAN AND THE ADOLESCENT: A REVIEW OF NORMAL GROWTH AND DEVELOPMENT IN THE ADOLESCENT*

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Although the pediatrician is generally considered as being responsible for the child from the neonatal period until he is twelve or thirteen years

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old, it is becoming increasingly evident that if his care is not continued beyond this age, the ultimate goal of a healthy, well adjusted adult has been only partly attained. The White House Conference of 1929–31 aptly named the adolescent, left-out and neglected, and pointed to the need for more concentrated attention on this age group. For an understanding of this problem a certain amount of basic knowledge of the normal growth and development of the adolescent was required and this also was found to be lacking. It was to this need that Boas and Davenport responded in the early thirties and produced much of the basic information on which our present day knowledge is founded. They were the first to recognize "the second growth spurt," to classify the difference between male and female growth at this period, and to demonstrate the different range of physiological growth in individuals. Since that time many volumes of research material have been added, and today a great deal is known about the normal growth and development of the adolescent. Therefore, it only remains for this material to be applied in the understanding of the medical and emotional problems of the adolescent. But who is to apply it? It is felt by many that this period is rightfully in the province of the pediatrician. It is the pediatrician who is normally accustomed to dealing with patients who are undergoing periods of rapid growth and development and therefore might best be suited to work successfully with this group. As it was in the pre-pediatrician era and today in many parts of the country, the general practitioner takes care of the majority of the children and these men naturally take their patients through the adolescent stage and on into adult life. It is in the areas where specialization to the "nth" degree is present that the adolescent finds himself most neglected. If the pediatrician is to take on this new responsibility he must have a certain basic knowledge of the normal growth and development of this period and it is to this end that the remainder of this paper will be devoted. Since the scope of this subject is of such great magnitude, only the high points will be covered and if a more detailed knowledge is sought the references at the end of the paper should be consulted. The definitions of adolescence are many and varied, but for the purpose of simplicity we will consider it to represent the period in life beginning with the second growth spurt and ending with the attainment of full sexual maturity. The adolescent period may be divided into three phases; the prepubescent, pubescent, and postpubescent. The prepubescent phase begins with the onset of the second growth spurt and ends with the appearance of the first pubic hairs. Pubescence itself is not so clearly delineated, but covers the phase from the appearance of the pubic hairs and the early changes following the attainment of puberty. The period following this and leading up to full sexual maturity is postpubescence.

GENERAL CONSIDERATIONS

The first important point is the existence of a wide variation in onset and duration of adolescence, not only between the sexes, but between two members of the same sex. In contrast to the wide variation in onset and duration, there is a remarkably constant sequence or pattern which the events or changes follow. Therefore, an altered sequence in the growth pattern is of more significance in recognizing abnormalities, than their relation to the chronological age of the patient.

Growth in this period as in the earlier period proceeds according to the law of cephalo-caudal progression. The head is very near its adult size at the approach of prepubesence. Soon afterwards in early adolescence there is an actual and relative increase in the proportions of the trunk and lower extremities. The majority of the changes in height and weight are due to growth changes affecting the principle tissues, muscle, and bone. Growth and development does not proceed along a straight line type of curve throughout adolescence as it does in the first year of life, but occurs at an accelerated rate during a certain time. This results in a "spurt" type of curve. This is probably one of the most important points to remember in considering normal growth and development in any one patient. Generally speaking males lag behind females by one year in prepubescence, but are developmentally two years behind during most of pubescence, only catching up and eventually passing the female in late postpubescence.

Individual variations are to be emphasized and will be discussed later. Some of the important factors known to influence the individual's growth pattern are heredity, race, climate, body build, type, and nutritional habits.

A. *Height:* The average girl gains in height at an accelerated rate from nine to twelve years. The average boy gains in height in the same manner, but from eleven to fourteen years. This results in most girls being taller than boys the same chronological age from eleven to thirteen years. After the thirteenth year in girls and the fifteenth year in boys, the height increment rapidly diminishes and ceases altogether in three years.

B. *Weight:* Maximum weight gain for girls occurs during the twelfth year and for boys during the fourteenth year.

At this point it would be well to reconsider a point made earlier in this paper, namely, the wide variation in onset of this accelerated growth. For example, the ranges for maximum height increase in girls was nine to twelve years; therefore, a girl who begins her spurt during the twelfth year will at first appear to be lagging behind another girl the same age who began her growth spurt at nine years. Several authors have pointed out that the girl who begins this spurt later not only catches up with the other girl, but will eventually outgrow her. There are definite reasons for this and they will be pointed out in the discussion on hormonal control of growth and development.

Shoulder breadth of girls increases at an accelerated rate from eleven to fourteen years and at that time exceeding males the same age. In postpubescence male shoulder breadth far exceeds that of the female. The maximum pelvic growth in females exceeds males at all ages and accelerated growth occurs between the eleventh and sixteenth years. The growth of muscle tissue is measured physically and by the determination of creatinine excretion. The musculature of males generally exceeds that of females because of hormonal differences, modes of play, and exercise. A boy's strength usually doubles itself between twelve and sixteen years. Despite their lag in actual growth in musculature, girls coordinate earlier than boys, which accounts for a girl being able to skip rope, play jacks, and roller skate better than most boys of this age group.

Skeletal development of females at certain ages exceeds that of males. In general, boys lag behind females by two years. The bone maturity for a girl nine years old is one year in advance of a boy's; at eleven years it is eighteen months ahead; and at twelve years it is a full two years ahead. Even though all but the radial and ulnar epiphyses have united in a girl fifteen years of age, full union of the epiphyses of the hands and wrists does not occur until the age of seventeen.

The normal changes in the skin at the time of the second growth spurt and throughout the remainder of adolescence account for one of the most serious problems that the adolescent faces. The change in texture and increased activity of the oil-forming glands make it very difficult to keep the pores from becoming closed off causing the formation of pustules and blackheads. With the appearance of the first hair on the face of the males, the problem of folliculitis is added. Not all of the adolescents have skin difficulties, some seem to have less tendency to skin disorders than others. Some of the factors which undoubtly influence the appearance of acne are: diet, hygienic habits, and perhaps heredity. In females acniform lesions often precede the onset of menses, not only in post adolescence but in early adulthood as well. Skin difficulties begun in adolescence are often carried over into adulthood, although they tend to become less severe as the person gets older.

DEVELOPMENT OF SEXUAL CHARACTERISTICS

Sexual characteristics are divided into the primary characteristics and the secondary characteristics. In a male the primary characteristics are changes in the penis, testicles, epididymis, seminal vesicles, and prostate. The secondary characteristics are the appearance of hair and voice change. The first of the male primary organs to develop is the epididymis. It begins to enlarge rapidly in early adolescence outgrowing the prostate. The prostate, though it begins to enlarge after the epididymis, eventually becomes much larger, the maximum growth occurring in late postpubescence and extending over into adulthood. The first prostatic secretions appear

around eleven years of age. The penis and testes approximate each other in growth, maximum growth taking place from eleven to seventeen years. Motile spermatozoa have been observed to appear at the average age of sixteen. Their appearance does signify the attainment of full sexual maturity, since the growth of the testes goes on in the young adult with an ever increasing production in the number of motile spermatozoa.

The secondary sexual characteristics appear in a set sequence or pattern. It is this sequence that is more important than the actual time at which they appear, remembering that the time of their appearance is dependent on the individual. The first of the secondary characteristics to appear is the pubic hair. The fine, vellus hair, light in color, is gradually replaced by a darker, more coarse hair. This hair which at first is straight, becomes longer and later curly. Several months later the axillary hair makes its appearance. Facial hair appears much later in adolescence, and chest hair still later, extending well over into the adult period. Facial and chest hair go through the same stages as that described for the pubic hair. Hair on the extremities makes its gradual appearance throughout adolescence, the amount and color being a matter of individual variation.

The other male secondary sex characteristic is voice change. This occurs late in comparison with the other changes. The average age when the change occurs is fifteen years. At this time the male voice is about one octave lower than the female.

Occasionally there are breast changes seen in males. This occurs at about the same time as the dark pubic hair first makes its appearance. The changes consist of swelling and tenderness of either one or both breasts.

The primary sexual changes in females affect the ovaries, uterus, and adnexa.

The maximum growth of the ovaries occurs from eight to seventeen years. There is another growth spurt later from seventeen to twenty years during which time the ovaries enlarge rapidly. Actually at the time of the first menses the ovary is only 30 per cent of its final weight.

The maximum growth of the uterus is attained from ten to eighteen years, during which time it approximately doubles in length and weight.

The female secondary sex characteristics are rounding of the hips, breast changes, appearance of body hair, and changes in the vaginal pH.

Rounding of the hips usually is the first secondary characteristic to appear. It may be preceded by early breast changes in the ectomorphic child. The changes in the hips are due to the deposition of subcutaneous fat and growth of the pelvic bones. The maximum growth of the pelvic bones occurs during pubescence. The pubic arch becomes widened and the pelvis assumes the typical gynecoid appearance.

Breast changes appear before the pubic hair. The flat, prepubescent

breast which is the same in both sexes, first becomes a small, cone-shaped bud. This at first involves only the nipple, but later develops into the "primary" breast as the subcutaneous tissue surrounding the nipple enlarges. The breast is in the primary stage at the time of onset of the menses.

In the secondary, more mature breast the areola loses its conical shape and becomes incorporated into the surrounding tissue assuming a flattened appearance with only the nipple left protruding from the now rounded breast.

The important normal variation to remember is that the initial enlargement is frequently unilateral. If this variation is remembered, needless anxious moments can be spared the mother who thinks her child has a breast tumor.

Body hair appears first in the pubic area. The hair itself undergoes the same changes as those previously discussed under male secondary characteristics. Pubic hair is followed by the appearance of axillary hair late in adolescence. Hair on the extremities and face in females is a variation of the individual.

The vaginal pH in prepubescence is 7.5 and changes to 4.5 during pubescence and postpubescence. This is accompanied by increased cornification and glycogen storage in the vaginal mucosa. The gram positive bacillus of Döderlein makes its appearance when the pH has become acidic.

The average age of the menarche in females of the United States is thirteen. A recent survey has shown that the present day adolescent reaches the menarche several months earlier than her mother. Irregularity of the menses is the rule rather than the exception during the first two years and should be anticipated. An explanation of the probability of this normal deviation at the time of the menarche is again considered an excellent preventive measure.

The basal metabolic rate, which is a measure of calorie consumption per square meter of body surface per hour shows only the expected increase for the change in physical dimensions. There is no evidence that there is an abnormal rise because of increased metabolic activities associated with the onset of adolescence.

Following the menarche there is noted a steady decline in the basal metabolic rate. It has been found that most physiological processes are unrelated to sexual development and are well stabilized prior to the beginning of adolescence.

Blood pressure in girls shows a steady rise for the three years prior to the menarche, afterwards becoming stabilized. The same is true for the pulse rate and the basal metabolic rate.

There are no definite changes noted in the blood count during adolescence.

THE EFFECT OF HORMONES ON GROWTH AND DEVELOPMENT

The glands of internal secretion are influencing factors in somatic changes. The complete interplay and interactions of the hormones are beyond the scope of this paper, but a diagrammatical scheme will be given to present a working basis for thought.

The pituitary is instrumental in initiating the changes and in acting upon other glands of internal secretion which influence growth patterns. The two pituitary hormones which influence growth and development are:

1. *Growth Hormone:* enables the child to obtain the maximum size of which he is capable.
2. *Gonadotropic Hormone:* secreted just before puberty in quantities to cause the infantile gonads to grow and mature. This hormone is also responsible for maintenance of sexual function throughout adult life.

In response to the gonadotropic hormones, the gonads begin to secrete hormonal agents of their own making; i.e., estrogens and later progesterone in the female, and testosterone in the male. In addition to the primary sex organs the female sex hormones also influence development of secondary sex characteristics.

It is important to remember that an increasing titer of both male and female sex hormones, either by direct action on the pituitary gland or by a chemical interaction, decreases the effectiveness and eventually stops the action of the growth hormone elaborated by the pituitary.

With the schematic representation given, it is easily understood why, for instance, some of the changes of adolescence occur in the order which they do.

Illustrated profound abnormalities, to demonstrate the normalcy of hormonal secretion, are for instance:

1. Increased secretion of growth hormone leading to the so-called pituitary giantism; similarly, decreased secretion of growth hormone, leading to pituitary dwarfism.

2. If the testes or ovaries begin to function at a level adequate to "inactivate" the growth hormone at an early age, there is cessation of growth early, although the child reaches sexual maturity. Contrarily, if there is a delay in the secretion by the gonads until very late, growth continues—particularly of the extremities, and there results eunuchism. As a corollary, we can understand the "why" of the hyperfeminine individual with broad hips and large breasts who is short of stature, as well as the tall, hypofeminine girl who has narrow hips and small breasts.

The role of the other endocrine glands are of secondary importance; nonetheless, they undoubtedly play a part. Chief among these is the thyroid. The thyroid gland responds well to the demands of adolescent changes. The frequency of colloid goiter during this period is probably indicative of

the demands placed upon the gland, but metabolic disease of the thyroid is rare until a few years later in life. The para-thyroids, Isles of Langerhans, and adrenals also play a part in the metabolic changes. The range of their activities is not clear, although adrenal function is now being clarified.

It was mentioned earlier that such factors as heredity, race, and diet influence growth and development. They are undoubtedly of major importance, but it is felt that their importance is manifested by actions and interactions of the hormones. Therefore, whatever the predisposing factors, the guiding elements are the hormones.

Thus far we have dwelt upon the endogenous factors which affect body growth and development, such as heredity and hormonal interplay. Exogenous factors, as certain brain tumors (directly causing an abnormal secretion of the pituitary), chronic illness, and diet are also of great importance. Johnston, especially, has made us acutely aware of the part played by dietary factors in adolescence. He has pointed out, for example, that approximately half as much calcium and nitrogen are retained in that period just following puberty contrasted with the period immediately preceding it. This demonstrates dramatically the increased need for calcium and nitrogen during the period of rapid adolescent changes. He also brings out the point that if the dietary requirements are not met, equilibrium is obtained at a lower level, at the expense of the basal metabolic rate. The effects on the endocrine glands by a state of hypo-nutrition are marked; in extreme cases there may be a failure in sexual maturity.

We have mentioned the various growth and developmental changes of adolescence, as well as the associated hormonal changes. True, these are the relatively rare gross developmental anomalies which must be handled. Also true is the fact that there is an increase in incidence of certain diseases during adolescence (such as tuberculosis) in response to rapid metabolic changes. Adolescence, in this country, however, is a period relatively free of disease, and most of the special considerations of the clinician should be devoted to emotional and psychological changes.

This is the period of achievement of adulthood. Just as there are rapidly progressive somatic changes taking place toward obtaining an adult status, there are simultaneous and correlating emotional and psychological changes. The child very swiftly is growing to adult physical proportions and bodily capabilities, and must likewise in the process obtain adult emotional and psychological status. There is a lag phase between the two, with many conflicts and maladjustments developing—varying in degree. Just as in the neonatal period the infant learns to take his place in the extra-uterine world, the adolescent must learn his position in adult life.

The physician can play an important part in helping the adolescent—both primary and secondary—if he is cognizant of the changes of the period.

By a role of reassurance toward the patient, and by teaching the parent a logical approach to the individual patient, he can be of great assistance. It is not an easy challenge, but it is one in which, with sufficient knowledge and an interest in the problem, a great deal of valuable service can be rendered.

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PSYCHIATRIC INTAKE CONFERENCE

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Muriel S. Sowers, M.D.

D. N., a ten year old colored male was referred to the Psychiatry Department with the chief complaints of nervousness and leg pain. The child has always been generally hyperactive particularly about the mouth. He sucks his thumb, chews on Kleenex and has something in his mouth all the time. For the past year, the patient has been complaining of pain in both legs which occurs while he is studying, watching television, or even sitting still.

There have been other habit and training difficulties. The patient has always wet the bed and was stooling in his pants until two years ago. He is afraid in the dark and jumps at a sudden noise. In addition, he picks at his clothes and has been blinking his eyes for the past one year.

Birth and developmental histories were normal. There had been no previous serious illnesses. Family background revealed that the mother was unmarried at the time of this patient's birth. When the patient was eight years of age his mother married her present husband, and a sibling, age two months has resulted from this union. Until the marriage the patient lived with his grandparents and his mother in a congenial atmosphere.

In his relationships with his family he shows a preference for his mother, baby brother, grandparents and father in this order. He believes that his grandfather likes him even better than does his mother. In his relationships with other children, he prefers the company of those younger than himself because he says the older ones are "too mean."

Miss Miklashek: The patient's mother is a neatly dressed negress of seemingly average or above intelligence who was at ease during the interview and entered into discussion of the problem very freely. She answered all the questions thoughtfully and also volunteered any information that she thought would be helpful.

The family is at present living in the Southeast district and have a five room duplex. The patient's stepfather is a helper at the Navy Yard and his approximate earnings are $43.00 a week. He works from 12:00 A.M. until 8:00 A.M. The mother was unmarried at the time of the patient's birth and he has retained her maiden name. When I questioned her superficially about this she thought that perhaps her husband may adopt him.

She spoke of the patient as being a friendly child who gets along well with other children. He is not selfish and is able to share his toys. When I questioned her about companionship between the patient and his stepfather

she said that they are very fond of each other but because her husband works at night he sees very little of his stepson. Any social activity on Sunday usually includes the whole family.

She also said that he was devoted to little children and other parents thought of him as a trustworthy boy. He is extremely fond of his little brother. She said that he very frequently pets the baby's face and she has had to warn him not to get too close to him. She further went on to say that he is demanding attention continually and likes to dance by himself. She said that he knows that all the things which he does to attract attention annoy her.

When I questioned her about his interests outside of school, she said that he likes to mount pictures and she encourages him to color and draw. However, he does not like to draw freehand. She said that he reads comic books but not to excess and when he does, usually selects the more simple kinds. He gets a subscription to Child Life through school and is apparently exposed to good literature.

When questioned about an allowance, his mother stated that he did not receive any at the present time. They had given him an allowance but he spent it all for candy. She said that she found that when he had an allowance he would sneak off with the older boys and go to a show without telling her that he was going.

In a telephone conversation with his teacher I was told that the patient was a nervous child who was very silly and laughed at most anything. His lessons are very good and he has normal relationships with the other children. She said that he is continually moving about and does not sit still. She also states that he is in a normal grade for his age (fourth grade) and is doing better than average work.

Reginald S. Lourie, M. D.: The picture obtained from these preliminary studies is one of a child who is not comfortable in his relationships with the people closest to him. It would seem that this has gone on for much of his life, and has resulted in anxiousness and fairly generalized upsetness. We can suspect that this anxiety has been influential in his earlier adjustment since we see evidences of unsolved stages of personality development. For example, he persists in sucking activity and excessive use of his hands; has recurrent enuresis and erratic bowel control, and shows immature types of fears which are seen usually in patients two to three years of age. He has need to hold on to people in dependent ways and much of his "pesty" behavior seems to serve this purpose. Because these manifestations have not provided the answers for him; in other words, because all his anxiety is not blotted up by these patterns of behavior he has had to look for other ways of expressing his upsetness and trying to relieve it. He has developed many ways of attempting this, including considerable restlessness and

fidgetness (called "nervousness" by the mother), and more lately somatic complaints such as uncomfortable eye sensations and leg aches for which no organic basis can be found.

When we look again at the nuclear problem, his feeling of acceptance, we have not sufficient evidence yet to know its roots. From the circumstances of his illegitimate birth, we may suspect that he had no great feeling of being wanted by the mother. His grandmother brought him up and we need to know more about what happened in the eight years with her in terms of his being accepted. He gives us signs that he is concerned with his acceptability—preoccupation with food, such as he has, is associated, not uncommonly, with not having enough feeling of being loved. He also seems to be looking frequently for concrete evidence of being liked; for example, he keeps asking for money with which he buys things to eat. Then, lack of satisfaction from relationships with the people closest to him is not compensated for sufficiently by other forms of satisfaction. It is sometimes sufficient for some children to be compensated in such situations by satisfaction from achievement such as in academic work, or by satisfaction from acceptance by other people or by a group of children. These substitute satisfactions are available to our patient—he does well academically and had good relationships outside of home, but these do not seem to be sufficient to solve his basic problem.

This boy will be accepted for further study in the Department of Psychiatry where he will be studied with more definitive techniques than are usually available in a general outpatient clinic. He will be reported on again in a staff conference. The prognosis here is possibly a good one, because with so many symptoms, it is evident that no one of them is serving the purpose of keeping him comfortable. Therefore, we may suspect that no one of the symptoms has too deep roots.